

REMARKS:

Claims 1-3, 5 and 30-31 were rejected under 35 USC 102(b) as anticipated by Ito et al.

Specifically, the office action states that 'Ito et al. teaches a recombinant VSV expressing Ebola glycoprotein wherein the mutation reduced the infectivity of the VSVΔG by the incorporation of the Ebola virus glycoprotein into recombinant VSV particles.'

Regarding Ito, it is noted that this reference states 'because expression of Ebola virus GP on the cell surface does not induce polykaryon formation, regardless of the pH to which the GP is exposed (26), we could not use this or similar assays to identify the fusion domain of the Ebola virus GP. Thus, we introduced amino acid substitutions into the putative fusion domain of the Ebola virus GP and examined the effect of these substitutions on the infectivity of VSVΔG* complemented with a GP mutant. The results suggest that the amino acids at position 524 to 539 do, in fact, constitute the fusion domain of the Ebola virus GP.' Page 8907, column 2, last paragraph.

Thus, Ito teaches using a recombinant form of VSV that contains the green fluorescent protein gene instead of the G protein gene and supplying a series of Ebola GP mutants in trans to determine what effect this had on virus entry.

That is, Ito does not teach inserting a VHF glycoprotein into the VSV so that the VHF glycoprotein replaces VSV G; rather, Ito teaches inserting fluorescent green protein into the genome in place of VSV G and supplying Ebola GP mutants in trans. These particles would lose infectivity once the supply of Ebola GP was exhausted, likely after 2 infection cycles. Accordingly, Ito teaches a reagent for examining Ebola GP binding to a receptor and internalization, not a reagent which can be used for immunizing individuals which is infectious and is capable of simulating

infection by said VHF virus but does not cause disease or symptoms associated with said VHF. Ito does not teach or suggest that such a construct could be made.

Regarding the section on page 8908, 2nd column, this section refers to results shown in Figure 3 and the description of Figure 3 states 'VSVΔG* complemented with Ebola virus GP and its mutants prepared as described previously (26)...' (page 8910, legend for Figure 3). Thus, in these cases, Ito does not teach 'a recombinant VSV expressing Ebola glycoprotein wherein the mutation reduced the infectivity of the VSVΔG by the incorporation of the Ebola virus glycoprotein into recombinant VSV particles'; rather, Ito teaches that with only a few exceptions, when mutant Ebola GP was supplied in trans with VSVΔG*, the mutant Ebola GPs were incorporated into the VSVΔG* particles equivalently to the wild type Ebola GP when supplied in trans. Thus, these particles are not expressing wild type Ebola GP or mutant Ebola GP – the Ebola GP is being supplied in trans. As such, these particles are not infectious as discussed above.

Claims 1-3, 5, 13-15, 17, 19-23, 25 and 27-31 were rejected under 35 USC 103(a) as unpatentable over Ito as applied to claims 1-3, 5 and 30-31 above and further in view of Kahn et al.

The office action states that Kahn 'teaches a recombinant vesicular stomatitis virus (VSV) expressing foreign glycoproteins that elicit specific protective immunity (Abstract). Kahn teaches the VSV glycoprotein (G) gene was deleted from the full-length cDNA VSV genomic plasmids containing the RSV G gene such that the RSV G genes replaced VSV G in viral genome... The RSV G (attachment) is the first and major antigenic glycoprotein...'

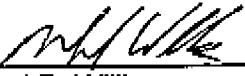
The office action further states that 'it would have been *prima facie* obvious to the person of ordinary skill in the art at the time the invention was made to prepare the immunogenic composition in an animal and use the composition to elicit

an immune response. The person of ordinary skill in the art would have been motivated to make use of a VSVΔG to elicit an immune response because Ito teaches it is effective with Ebola (VHF), and reasonably would have expected success because of the teachings of Kahn'.

Applicant respectfully believes that the objections in view of Ito are overcome by the arguments forwarded above. Accordingly, it is believed that the objections in view of the combination of Ito in view of Khan are moot.

In view of the foregoing, further and more favorable consideration is respectfully requested.

Respectfully submitted
Steven Jones et al.

PER: 
Michael R. Williams
Registration 45,333

Winnipeg, Manitoba, Canada
Telephone (204) 944-0034 FAX (204) 942-5723